European Business and Technology Centre

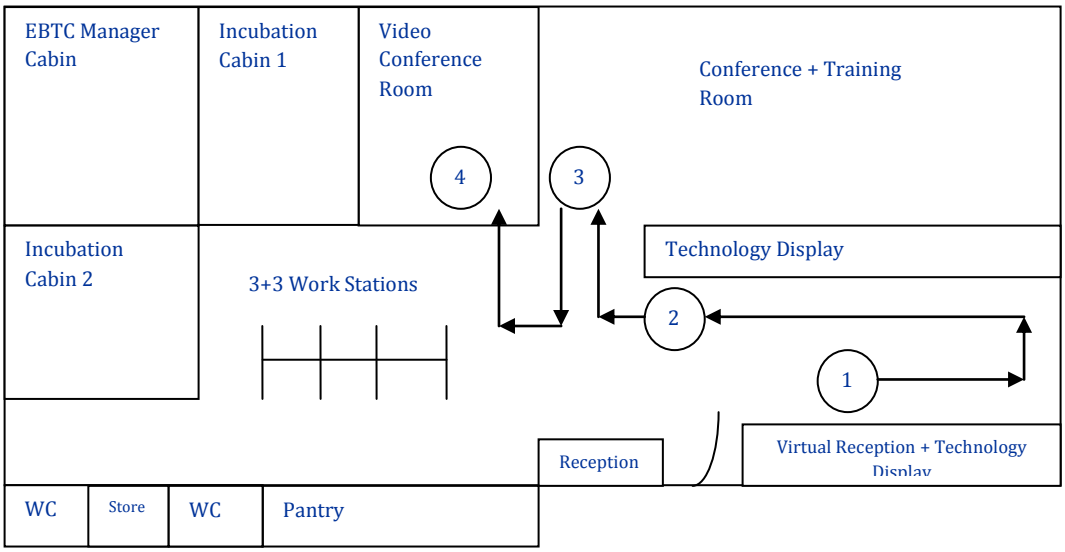
EBTC - European Technology Experience Centre (ETEC)

For European Hydrogen Association

I. About ETEC:

For a European business or research organizations involved in Hydrogen based energy solutions or Fuel Cell technologies who intend to showcase the technologies or locate themselves in India, EBTC opines that a sustained visibility, presence and interaction with the relevant stakeholders in the market is key for the development, deployment and success of a technology and business.

This ETEC showcases European technologies, solutions, and research and development opportunities via real and virtual media.



II. EBTC's European Technology Experience Centre (ETEC) – Walkthrough

1. Be received by the virtual reception
2. Walk through the technology exhibits
3. See videos and demos of the technology of interest
4. Have meetings with the technology company in Europe via Video Conference

Technology Content: This will come from EU Fuel Cell and Hydrogen based energy companies incubating with EBTC.

Training & Capacity Building Workshops: EBTC can showcase European expertise, and present training programs and material in the like Hydrogen and Fuel Cell technology sector, state of the art R&D and business applications etc.

Video Conferencing: for all meetings and discussions including research-to-research, research-to-business, business-to-business etc.

III. Benefit to EU stakeholders:

European organizations, in general, attempt to find a partner, investor, project opportunity in India to get started. In reality, Indian counterparts would like to learn more and have consistent contact to develop their understanding of technologies and their techno-commercial benefits – to make informed decisions.

The EU Technology Experience Centre will support the main objective of EBTC's existence: assisting businesses and research organizations - in Europe and India - to work together towards generating new research / business opportunities and technology transfer. This solution is enhancing collaboration between EU and Indian companies which will be achieved by using this modern technology, saving companies time and money when conducting initial market research. EBTC has found in the past EU companies are often reluctant to discover Indian markets because of the financial requirement of such an activity, and using Virtual Experience Centre will significantly reduce the cost. Also this will be a great opportunity for Indian companies to get more active in searching for EU counterparts.

Some of the benefits EBTC aims to offer EU entities through this ETEC include

a. EU Business & Research:

As part of Technology or Business Incubation, EU entities get to use the ETEC to showcase its technologies and services through the multimedia, physical display and have EBTC dedicated staff time to promote EU entities objectives in India. Technology incubation activities typically involve promotion of technology products and services, continuously engaging with relevant public and private stakeholders, identification of right partner/collaborator for doing projects in India. For this Technology Incubation, EU entities can choose either of the below two options:

- Companies can nominate / hire a person who would promote and manage its products & services in India. In these cases, EBTC can assist companies with office and logistical support for carrying day-to-day operations
- EBTC can nominate a person who could carry out technology incubation activities for EU entities across India.

b. European Commission, EU Institutions and Programs: Horizon 2020, ETPs, EEN, etc. can have information dissemination programs

c. European Experts: can do workshops, training programs at the Centre. Experts from EU institutions who wish to present technologies that India can benefit from, can use this platform to share ideas, connect and do business and research

IV. Indian beneficiaries from ETEC

The organizations who would visit the ETEC to explore, visualize and understand the EU technologies on display could include

a. Government agencies: Exposure to European strengths in Hydrogen and Fuel Cell solutions, understand policies and frameworks in creating an ecosystem to develop and disseminate these clean energy solutions. Since its inception, EBTC has established a good connect with various departments of Renewable Energy, Transport, Environment at Union Government of India and regional State government levels. EBTC will be showcasing EU technology exhibits to these agencies and organize real time interactions between the EU entity and city governments, policy makers, technology reviews, project planning, etc

b. Research institutions: A visiting Indian research institution can identify areas where it aims to do further research, identify possible research collaboration partners in Europe, or who aim to indigenize EU technologies to suit Indian conditions, both on technological and financial parameters. These include institutions such as Indian Institute of Science, Indian Institute of Technology, Anna University, Centre for Fuel Cell Technology of The International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Thiagarajar College of Engineering, etc.

c. Business organizations: A visiting Indian company or an entrepreneur can review a technology on display, check out videos and material in the multimedia fitted Conference room and finally do a B2B meeting with the European entity via video conference. Some of these business organizations who are in connect with EBTC in this sector include public sector companies in power sector like BHEL, Tata Motors, etc.

V. Relevant EBTC activities

EBTC is actively involved in activities in areas which are relevant to Hydrogen & Fuel Cell technologies. Some of these include

Transport Cluster:

EBTC is associated with Italy based CEIPIEMONTE, Bangalore based Indian Institute of Science, (IISc) and KSRTC (state owned road transport corporation) in developing a transport cluster whose goal is to Develop sustainable mobility solutions for the state of Karnataka. Sustainable Mobility for huge population needs mobility of people and goods by a clean, energy efficient, safe and intelligent transport system. This is a huge sector covering a wide range of subjects, namely : (i) cleaner vehicle manufacturing; (ii) advanced public transport systems; (iii) open network and traffic management with applications of ITS – Intelligent Transport System solutions; (iv) infrastructure development; (v) city logistics. Other goals include management of a cluster are related to networking (institutional and private) that can play a synergic role for all the partners overall to create links among partners according to their strengths or needs.

Indigenizing of Fuel Cells:

EBTC is currently collaborating with a German based SOFC company which aims to indigenize fuel cells such that it meets the technological and economical requisites for large scale deployment in India. In collaboration with one of its key partner, EBTC has developed a unique model called Technology Localization Model (TLM) for developing strategies and ways to indigenize EU technologies in India. Indigenization improves technological and economical viability of EU technological solutions in India. For achieving this in the SOFC project, EBTC is collaborating with a government aided academic and research institution in Tamil Nadu to indigenize the technology and is associating with a large public sector company in power sector to carry out a pilot project demonstration.

Greening Cities Summit:

In association with two of its partners, EBTC is facilitating a visit of an European Mission, which will consist of leading representatives of European Cities and Regions led by the President of the Committee of the Regions of the European Union along with their stakeholders having technology and best practices in sustainable urban development to share with their Indian counterparts, be they corporate leaders, scientists and academicians, or professionals. Through this Summit EBTC aims to identify further areas of collaboration between EU & India especially in fields of Sustainable Urban Mobility, Energy Efficiency & Security including Off-grid / local renewable energy & micro-generation.

VI. Initiatives by the Government:

Following list is some of the initiatives taken by government agencies under various capacities

- Green Initiative for Future Transport (GIFT) - Developing and demonstrating hydrogen powered IC engine and fuel cell based vehicles; One million vehicles by 2020.
- Green Initiative for Power Generation (GIP) – Develop/demonstrate H2-ICE/turbine; FC, decentralized power generating systems; small milliwatt capacity to MW size systems
- Demonstration projects in 2 and 4 wheeler segments,; Hydrogen-CNG blending etc.
- Fuel Cell bus by ISRO and Tata Motors.
- R&D activities on PEMFC, PAFC, DMFC, DEFC, MCFC
- Projects by public organizations like Indian Oil in collaboration with Mahindra & Mahindra, HPCL in collaboration with Tata Teleservices.
- Research projects at numerous institutions like IIT Delhi, IIT Kharagpur, Naval Materials Research Laboratory, DRDO etc.